

***PSEUDOTSUGA MENZIESII* – *ABIES GRANDIS* /
CORYLUS CORNUTA / *POLYSTICHUM MUNITUM***

Douglas-fir – grand fir / beaked hazelnut / sword fern

Abbreviated Name: PSME-ABGR/COCO/POMU

Sample size = 6 plots

DISTRIBUTION: This association occurs in the southern Puget Trough and into the Willamette Valley and its foothills in Oregon. Known only from Lewis, Cowlitz, and Clark counties in Washington. Probably also occurs in Skamania County.

GLOBAL/STATE STATUS: GNR1. The few known occurrences in Washington are either small and/or have been significantly degraded by past logging. Development and non-native species are threats.

ID TIPS: Grand fir occupies >10% cover or is the dominant successful tree regeneration, with little to no western hemlock or western redcedar present. Beaked hazelnut always present and either it or vine maple >5% cover. Sword fern >5% cover. See key.

ENVIRONMENT: These sites are mesic to moist and appear to be relatively nutrient-rich. Sites are flat to steep, with varying aspect. Most plots are on mid to lower slopes. Parent materials include weathered volcanic residuum and ancient glacial drift. Soil texture is relatively fine: often clay loam. All mapped soil types are free of restrictive layers.

Precipitation: 46-63 inches (mean 51)

Elevation: 120-600 feet

Aspect/slope: various/ 0-68% (mean 42)

Slope position: mid, lower, plain

Soil series: Olympic, Prather

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance and most stands probably originated after fire. Some stands show evidence of past low- to moderate-severity fire (underburns). Many stands are located in landscapes that formerly supported prairies maintained by Native American burning practices. Some of these may have the potential to support hemlock or redcedar in the long-term absence of disturbance.

VEGETATION: Canopy typically dominated by Douglas-fir. Grand fir is always present, typically dominates tree regeneration, and

Douglas-fir – grand fir / beaked hazelnut / sword fern

Vegetation Composition Table (selected species):

Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found;
+ = trace (< 0.5% cover).

Trees	Kartesz 2005 Name	Con	Cov
Douglas-fir	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	100	61
bigleaf maple	<i>Acer macrophyllum</i>	100	32
grand fir	<i>Abies grandis</i>	100	15
western hemlock	<i>Tsuga heterophylla</i>	50	5
cascara	<i>Frangula purshiana</i>	50	1
western redcedar	<i>Thuja plicata</i>	33	3
Shrubs and Dwarf-shrubs			
beaked hazelnut	<i>Corylus cornuta</i> var. <i>californica</i>	100	20
trailing blackberry	<i>Rubus ursinus</i> ssp. <i>macropetalus</i>	100	5
vine maple	<i>Acer circinatum</i>	83	23
dwarf Oregongrape	<i>Mahonia nervosa</i>	83	12
red huckleberry	<i>Vaccinium parvifolium</i>	67	2
English holly	<i>Ilex aquifolium</i>	67	2
red elderberry	<i>Sambucus racemosa</i> var. <i>racemosa</i>	50	8
salal	<i>Gaultheria shallon</i>	50	5
baldhip rose	<i>Rosa gymnocarpa</i>	50	2
Indian plum	<i>Oemleria cerasiformis</i>	33	6
oceanspray	<i>Holodiscus discolor</i>	33	2
thimbleberry	<i>Rubus parviflorus</i> var. <i>parviflorus</i>	17	13
Graminoids			
Columbia brome	<i>Bromus vulgaris</i>	50	3
Dewey's sedge	<i>Carex deweyana</i> var. <i>deweyana</i>	33	2
Alaska oniongrass	<i>Melica subulata</i>	33	2
Forbs and Ferns			
sword fern	<i>Polystichum munitum</i>	100	52
sweet-scented bedstraw	<i>Galium triflorum</i>	100	3
inside-out flower	<i>Vancouveria hexandra</i>	83	12
western trillium	<i>Trillium ovatum</i> ssp. <i>ovatum</i>	83	+
Hooker's fairybells	<i>Prosartes hookeri</i> var. <i>oregana</i>	67	1
spreading woodfern	<i>Dryopteris expansa</i>	67	1
western starflower	<i>Trientalis borealis</i> ssp. <i>latifolia</i>	67	1
vanillaleaf	<i>Achlys triphylla</i>	50	5
licorice fern	<i>Polypodium glycyrrhiza</i>	50	1
fringe cup	<i>Tellima grandiflora</i>	50	+
large false Solomon's seal	<i>Maianthemum racemosum</i> ssp. <i>amplexicaule</i>	33	6
slender-stem waterleaf	<i>Hydrophyllum tenuipes</i>	33	4
Siberian springbeauty	<i>Claytonia sibirica</i> var. <i>sibirica</i>	33	4
Columbia windflower	<i>Anemone deltoidea</i>	33	2

Douglas-fir – grand fir / beaked hazelnut / sword fern

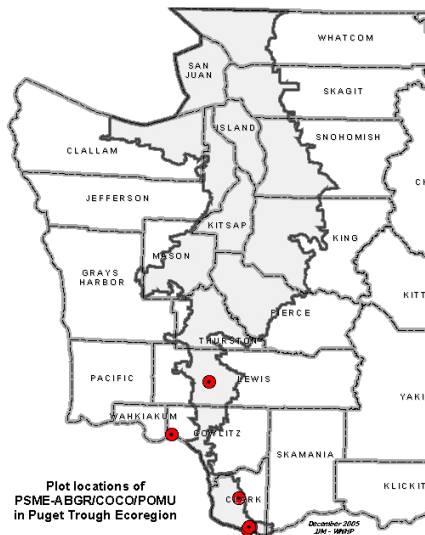


Douglas-fir – grand fir / beaked hazelnut / sword fern

sometimes co-dominates the canopy. Bigleaf maple typically forms a prominent to co-dominant lower tree canopy layer. Beaked hazelnut always forms a prominent to dominant tall shrub layer, usually with co-dominant vine maple. Lower shrub layers are more variable in species and cover: dwarf Oregon grape is often prominent and trailing blackberry is always at least present. Other frequent shrubs include red huckleberry, salal, red elderberry, and balhip rose. Sword fern dominates the herb layer. Inside-out flower is usually prominent. Sweet-scented bedstraw, Hooker's fairybells, western trillium, spreading woodfern, western starflower, and vanillaleaf are other frequently occurring herbs.

CLASSIFICATION NOTES: Described by Chappell (1997, 2001) as part of PSME-(ABGR)/COCO/POMU. NatureServe (2005) lists it as a part of PSME/COCO/POMU.

MANAGEMENT NOTES: These sites appear to be quite productive for tree growth. Non-native English ivy (*Hedera helix*) does well on these sites and if present can quickly overwhelm the native understory. Herb Robert (*Geranium robertianum*) is another threatening invasive for this association.



Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA. [<http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf>].